

CLAIMS

1. (Previously presented) A control system for measuring a gap in an apparatus for pressing a traveling paper web, comprising:

a support roll and a press apparatus, said press apparatus including a pressure body, said pressure body and said support roll defining the gap therebetween, said support roll positioned
5 underneath said paper web;

a frame movably supporting the pressure body;

an actuator operatively disposed between the frame and pressure body for selectively moving the pressure body toward and away from the support roll to control the gap size;

a sensor mounted in the press apparatus for producing a signal indicative of the pressure
10 on the paper web as the paper web is passed through the gap adjacent said sensor; and

a controller operatively linked with the sensor for receiving the signal, determining the measure of the gap as a function of the pressure, and causing the actuator to move the pressure body to control the gap size.

2. (Previously presented) A control system for measuring a gap as set forth in claim 1, further including a belt interposed between the paper web and the press apparatus; and the press apparatus includes an air chamber for applying pressurized air to the belt.

3. (Original) A control system for measuring a gap as set forth in claim 1, wherein said sensor comprises a transducer.

4. (Previously presented) A control system for measuring a gap as set forth in claim 3, wherein the pressure body includes leading and trailing arms; a seal is mounted on a distal end of at least one of the leading or trailing arms for contacting one of a belt and a felt in nipping engagement therewith; and the transducer is mounted in the seal of at least one of the leading or trailing arms for producing signals indicative of the gap between the press apparatus and the support.

5. (Previously presented) A control system for measuring a gap as set forth in claim 1, wherein the support roll comprises a rotatable support roll having a cylindrical support surface; and the pressure body includes a seal which has an outer surface contoured to substantially conform with ~~the~~ a support surface of the support roll.

6. (Previously presented) A control system for measuring a gap as set forth in claim 1, wherein the actuator comprises at least one flexible tube capable of expanding or contracting upon being linked with a source of pressurized air to selectively apply force to move the pressure body to control the gap size.

7. (Previously presented) A control system for measuring a gap as set forth in claim 6, wherein the pressure body includes a seal for contacting one of a belt and a felt in nipping engagement therewith.

8. (Previously presented) A control system for measuring a gap as set forth in claim 7, wherein the seal has an outer surface for engaging one of the belt and the felt, the seal outer surface being contoured to conform with the support roll.
9. (Original) A control system for measuring the gap as set forth in claim 8, wherein the seal outer surface is curved to be cylindrical with a radius of curvature at least as large as the radius of curvature of the support roll surface.
10. (Previously presented) A control system for measuring a gap as set forth in claim 1, wherein the paper web is disposed to travel between a belt and a felt; the support roll comprises a support roll having a roll surface; the pressure body includes a seal having a surface curved for engaging the belt over the support roll surface; and the sensor includes a transducer operatively
5 mounted in the seal curved surface for engaging the belt and producing a signal indicative of the gap between the seal surface and the support roll surface as the belt, paper web and felt are passed therebetween.
11. (Previously presented) A control system for measuring a gap as set forth in claim 10, wherein said sensor is a pressure transducer coupled with a controller, which in turn is coupled with a source of pressurized air whereby the controller controls said source of pressurized air to provide a predetermined air pressure as a function of the pressure transducer signal to produce a
5 corresponding force in the pressing apparatus and seal to maintain the gap at a predetermined size as measured by the pressure transducer.

12-15 (Canceled)

16. (Previously presented) A control system for measuring a gap in an apparatus for pressing a traveling paper web as the paper web travels through the gap, the apparatus including a support and a press apparatus, said press apparatus including a pressure body, said pressure body and said support defining the gap therebetween, comprising:

5 a frame for movably supporting the pressure body;

the support includes a support roll having a cylindrical surface, said support roll positioned underneath the paper web;

the pressure body includes an air pressure chamber having leading and trailing arms disposed to engage one of a belt and a felt to seal the air pressure chamber thereagainst;

10 a pressure source for providing pressurized air to the air pressure chamber for providing pressing force to the web as the web passes beneath the air pressure chamber over the support roll surface;

at least one sensor attached to at least one of the leading or trailing arms at the interface between the at least one arm and one of the felt and belt over the surface of the roll for producing
15 a signal indicative of the pressure on the paper web as the paper web is passed proximate to said sensor; and

a controller operatively linked with said pressure source and with the at least one sensor for receiving the signal, measuring the gap and selectively causing increasing or decreasing pressure on the pressure body to control the gap.

17. (Previously presented) A control system for measuring a gap as set forth in claim 16, further including:

a seal mounted to the distal end of at least one of the leading or trailing arms, the seal having a face for bearing against one of said belt and said felt; and

5 at least one of the sensors mounted in the face bearing against one of said belt and said felt.